

CLAIMS

1. A beverage distribution system, comprising:
 - a) a container for storing a beverage;
 - b) a cooler for refrigerating the container and the beverage stored therein;
 - c) at least one beverage dispensing unit;
 - d) at least one distribution line for delivering the beverage from the container to the dispensing unit;
 - e) a trunk line extending substantially from or near the cooler to or near the dispensing tower, the trunk line including the distribution line and at least one refrigerant line in an abutting relationship;
 - f) a heat transfer unit located distally from the cooler and connected to the trunk line, the heat transfer unit defining a volume which is filled by refrigerant accumulating from the refrigerant line, the heat transfer unit having a coil connected to the distribution line for immersing a portion of the beverage in a bath of the refrigerant; and
 - g) a refrigeration loop, including the refrigerant line, for circulating refrigerant through the heat transfer unit.
2. The system according to Claim 1, including air pressure means for motivating the beverage to flow through the distribution line.
3. The system according to Claim 1, wherein the distribution lines are pressurized.
4. The system according to Claim 1, wherein the heat transfer unit is physically located nearer to the dispensing unit than the beverage container.
5. The system according to Claim 1, wherein the length of the coil exceeds the length, width or height of the heat transfer unit.
6. The system according to Claim 5, wherein the coil is constructed from a metal.

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7. The system according to Claim 1, wherein the refrigerant loop includes a pump and a heat exchanger for circulating refrigerant through the heat transfer unit and for cooling the refrigerant.
8. The system according to Claim 1, wherein the beverage is beer.
9. The system according to Claim 1, wherein the coil is metallic, has a length of approximately twenty to fifty feet, and the flow rate of the refrigerant through the heat transfer unit is approximately 25 to 125 gallons per hour.
10. A heat transfer unit, comprising:
 - a) a housing, defining a volume;
 - b) a first inlet tube for introducing refrigerant into the housing and a first outlet tube for egress of the refrigerant, the first inlet and first outlet tubes being disconnected within the housing in order to allow refrigerant to accumulate in the volume; and
 - c) a second tube disposed in the housing having an inlet and outlet situated exterior of the housing, the second tube being continuous through the volume so as to isolate the contents therein from the refrigerant in the housing.
11. The device according to Claim 10, wherein the second tube is a metallic coil.
12. The device according to Claim 11, including a pump for circulating refrigerant through the housing and a heat exchange for cooling the refrigerant.
13. A method for chilling a beverage in a beverage distribution system in which a beverage container is located distally from a beverage dispensing unit and the beverage delivered thereto via a pressurized beverage distribution line, the method comprising:
 - a) cooling the container;
 - b) cooling the beverage distribution line;
 - c) installing a heat transfer unit nearer to the dispensing unit than the container, wherein the heat transfer unit comprises:
 - i) a housing, defining a volume;

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- ii) a first inlet tube for introducing refrigerant into the housing and a first outlet tube for egress of the refrigerant, the first inlet and outlet tubes being disconnected within the housing in order to allow refrigerant to accumulate in the volume;
- iii) a second tube disposed in the housing having an inlet and outlet situated exterior of the housing, the second tube being continuous through the volume so as to isolate the contents therein from the refrigerant in the housing;
- d) splicing the beverage distribution line to the inlet and outlet of the second tube;
- e) splicing the first inlet and first outlet to a refrigeration loop, wherein the loop circulates refrigerant through a heat exchanger, thereby circulating refrigerant through the heat transfer unit.

14. A method for reducing foaming of beer in a beer distribution system in which a keg is located distally from a dispensing tower and the beer delivered thereto under pressure via a beer distribution conduit, the method comprising:

- a) cooling the keg;
 - b) pressurizing the bulk of the beer distribution line to at least 36 psi;
- and
- c) selecting conduit having one or more diameters such that a beer flow rate of about one to two ounces per second is achieved at the dispensing tower.

15. The method according to claim 14, including cooling the beer in the beer distribution lines.

16. The method according to claim 14, wherein the bulk of the beer distribution line is pressurized in the range of about 50 – 58 psi.

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